

the man whose teaching has just ended, but whose life-work has only begun to run its course. Rewards came to Francis Galton—medals, honorary degrees, corresponding memberships of many learned societies—they came unsought, but not unappreciated. His very modesty made him take an almost childlike joy in these recognitions of his worth, and the present writer remembers with what pleasure, but a few weeks ago, Galton showed him his recently received Copley medal. But these things were not of the essence of his life. Few men have worked so little for reputation and so much for the mere joy of discovering the truth. His three chief pleasures in life were first to discover a problem, secondly to solve it by a simple but adequate process, and thirdly to tell a congenial friend of the problem and its solution. What he cared chiefly for was the sympathy of men who appreciated his special type of work and understood its relation to human progress. Had he spoken of himself and his feelings, which he rarely did, he would, we think, have described his purpose in life much in the words of Huxley:—

"To promote the increase of natural knowledge, and to further the application of scientific methods of investigation to all the problems of life to the best of my ability, in the conviction which has grown with my growth and strengthened with my strength, that there is no alleviation for the sufferings of mankind except veracity of thought and action, and the resolute facing of the world as it is when the garment of make-belief, by which pious hands have hidden its uglier features, is stripped off."

But in the fulfilment of his purpose Francis Galton was an optimist. He believed that man can not only physically control his environment, but with fuller biological knowledge his future development. Not on this or that contribution to the records of science, but on the justification of this belief, will depend his fame in the roll of the ages. There are some of us who believe that among the great names cited at the commencement of this paper, Galton's will not be the last, for he has given an inspiration which will grow to full fruition. Our country has been the land of dominant scientific ideas rather than of massive contributions to the records of science—gravitation, the survival of the fitter, the electromagnetic theory—may we yet add—the biological control of human development? If so, the name of Francis Galton will be closely associated with the coping-stone of the edifice, which had its foundations first securely laid by his half-cousin, Charles Darwin.

#### MEGALITHIC MONUMENTS AND PRE-HISTORIC CULTURE IN THE WESTERN MEDITERRANEAN.<sup>1</sup>

AMONG the many questions to which the attention of the British School at Rome is now directed none is of more interest and importance than the exploration of the megalithic remains and primitive culture of the western Mediterranean which is now in progress.

Sardinia, much the most promising field of study, is in the hands of Dr. Mackenzie, the value of whose report is greatly increased by the admirable plans prepared by Mr. F. G. Newton. First among these remains come the Nuraghe or fortified towers, of which more than one type has been identified. The most primitive form is perhaps the simple strong tower of circular shape, to which succeeded the type

<sup>1</sup> "Papers of the British School at Rome," Vol. v. Pp. xiv+471+47 plates. (London: Macmillan and Co., Ltd., 1910.) Price 42s. net.

represented by that of Voes, a massive triangular building, having four circular chambers on the ground floor and a central unroofed courtyard opening into a massively constructed corridor leading to smaller inner rooms. Above this was a second storey, now ruined, which may have formed the living part of the house and the abode of the women, while the lower floor was occupied partly by guards and attendants and partly used as storehouses. These forms soon develop into more complex types, until we reach an elaborately fortified enciente with massive corner towers, like that of Nossia. Dr. Mackenzie reasonably suggests that in the Bronze age the lords of these Nuraghe may have possessed only limited sovereignty, and that these elaborate fortifications were designed in the event of incursions by the neighbouring local chiefs.

The chief interest of the report lies in the fact that for the first time a seriation of the dolmens is attempted, and that these are now brought into relation with the Nuraghe. First comes the dolmen in its primitive form, familiar in western Europe—a massive slab resting on upright supports and forming a rude chamber. The next stage is illustrated by the monument at Maone, which, instead of being a mere cella with vertical supports, is partly hewn into the sloping rock, partly built up with rough coursed masonry, on the top of which rests the cover-slab. Then comes the form, represented by the dolmen of Su Covecco, which is on the point of being elongated and becoming a so-called "Giants' Tomb." In the latter the apse-like arrangement persists, but the cella and well of the enclosure are much extended, and exhibit a whole series of cover-slabs instead of the single massive stone in the primitive dolmen type. The structure thus often simulates the form of an inverted boat, like the Naveta tombs of the Balearic Islands, which gained their name from this fact. They were perhaps designed to symbolise the boat which conveyed the souls of the people, immigrants from beyond the sea, to a place of rest across the ocean. But the original dolmen type seems to have survived into this later period, and in one case the tomb is provided with a secret entrance, which may have been intended for subsequent interments, while the smaller portal hole in the front was reserved for the periodical rites in honour of the ancestral spirits.

Mr. Peet's report on the prehistoric period in Malta is mainly devoted to a criticism of the views of Albert Mayr, who regarded the culture of prehistoric Malta as mainly Aegean. Mr. Peet, dealing in succession with the arguments based on the use of overlapping or splayed masonry, the occurrence of the spiral form of ornament, and the baetylic or pillar worship, points out that none of these have special Aegean or Mycenaean provenience, and while not denying the existence of Aegean culture in Malta, he regards it impossible to attribute all that appears in the island to this source.

It may be hoped that the establishment of a new society for the promotion of Roman studies will give a fresh impetus and supply increased resources for the survey which has been so well started by Dr. Mackenzie and Mr. Peet.

THE FLIGHT OF BIRDS.

TO *La Nature* for December 11, 1910, M. Lucien Fournier contributes a well illustrated article on the flight of birds. One of the pictures, showing various positions taken by the wings of gulls in flight, is here reproduced. Three other of the illustrations, namely

a flight of gulls, a stork leaving its nest, and a flying vulture, are particularly good.

The author separates birds into four groups, according to the characteristics of their flight, as follows:—  
(1) Wings always flapping; (2) flapping alternating with downward gliding; (3) Flapping and gliding with maintained level; (4) gliding and soaring only.

This classification can hardly be considered satisfactory. It is suggested that a bird can fly without any expenditure of work provided that there is even a slightly variable wind, and the article concludes with the hope that the day is not far distant when (by proper automatic devices to take advantage of wind variation) flying machines will be able to do without engines.

In reality no bird or flying machine can maintain

#### SCIENCE AND LITERATURE.

**A**N eloquent address on language and literature was delivered on January 27 by Lord Morley of Blackburn, as president of the English Association. Parts of the address dealt with the relation between science and letters, with particular reference to the use of scientific knowledge in poetry, and the antithesis between documentary fact and artistic style. Science aims at concise and truthful expression; and while Lord Morley testified to the value of its influence upon literature, he doubted whether scientific ideas had inspired even Tennyson to the best verse, whether the desire for fact scientifically recorded is not a misfortune in the treatment of modern history, and whether concentration upon scientific truth has not a



A group of Gulls in flight, showing various positions of the wings of birds.

its level or rise in still air or in a uniform horizontal wind without the expenditure of power, and although it is true that power may be gained from the air by a proper utilisation of the differences of the horizontal velocity in the different regions traversed, these differences would have to be large even for the sustenance of long-winged birds, and there is no direct evidence that this kind of flight is habitual with them.

It is not improbable, however, that with their long experience birds have found out its possibility, and the skimming of some birds near the surface of the waves, where the variations of velocity are great, may be a case in point, but there can be little doubt that when flying at a considerable height birds depend for their support on an upward component in the velocity of the wind.

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deadening effect upon emotional conceptions and pleasures.

Lord Morley's tribute to some scientific masters of clear and simple exposition resigns us to his subsequent conclusions. Keats could not forgive optics for robbing the rainbow of its wonder and mystery, and Lord Morley seems to suggest that the literary art which deals with scientific studies and results is not of the highest. But poetry is imagery, and new images of Nature are made possible by every discovery of the attributes and meaning of the things around us. The poetry which neglects advances of natural knowledge becomes conventional in form and substance, concerning itself only with the wonders of childhood because it does not understand the higher and grander mysteries which science has failed to penetrate. His-